CLAIMS

1. A process for producing a microswitch, characterized in that it comprises at least the following steps:

- production of a first subassembly (100) comprising a first substrate (8) and at least conducting lines (2, 3, 10 and 11) and a control electrode (5);
- production of a second subassembly (101) comprising a second substrate (21), at least one stop layer (18), a layer of material (15), at least one electrically conducting layer (16, 17) and at least one high-permittivity layer (7);
- mechanical and electrical assembly of the two subassemblies (100, 101);
- elimination of the second substrate (21) down to the stop layer (18); and
- final cutting of the layer (17) to the dimensions of a membrane (1) by photolithography and etching.

2. The process for producing a microswitch as claimed in claim 1, characterized in that the high-permittivity layer is deposited by a sputtering or sol-gel process.

3. The process for producing a microswitch as claimed in claim 1, characterized in that the substrate (8) has regions of additional thickness, called mesas (81), and a conducting layer (19), each mesa being covered with a thickness (14) of metal identical to that of the conducting lines (2, 3, 10 and 11).

4. The process for producing a microswitch as claimed in claim 3, characterized in that the conducting layer (16, 17) has, facing the mesas (81), regions (12) of additional thickness that are produced in the same material as the layer (7) and have the same thickness.

5. The process for producing a microswitch as claimed in claim 3, characterized in that, for a parallel-type microswitch comprising, on the first subassembly (100), two conducting lines (10, 11) located on the insulating substrate (8), which are mutually parallel and electrically connected to an electrical ground; a conducting line (2), called the input signal line which is placed between the ground lines (10, 11) and is parallel to said ground lines; a conducting line (3) called the output signal line which is placed in the extension of the input signal line (2) and between the ground lines (10, 11), which is parallel to said ground lines and a control electrode (5) located on said substrate, one of the ends of which electrically connects the input signal line (2) and the output signal line (3), and the two subassemblies (100, 101) are joined together by the deposition and bonding of a eutectic alloy (19) between the ground lines (10, 11) and the conducting layers (16, 17), the regions (12) of additional thickness resting on the mesas (81).

6. The process for producing a microswitch as claimed in claim 5, characterized in that the eutectic alloy is of the gold/tin type.

7. The process for producing a microswitch as claimed in claim 1, characterized in that at least one deposition of deformable metal (20) is carried out on the first subassembly (100).

8. The process for producing a microswitch as claimed in claim 7, characterized in that the deformable material is either gold or a gold/tin eutectic alloy.

9. The process for producing a microswitch as claimed in claim 7, characterized in that the production of the second subassembly (101) comprises the following substeps:

- production of an assembly comprising the first substrate (21), at least the stop layer (18) and the layer of material (15);
- cutting of the layer (15) so as to create at least one pillar (13); and
- deposition of the electrically conducting layer (16, 17) and at least the layer (7) on the layer (15).

10. The process for producing a microswitch as claimed in claim 7, characterized in that the second subassembly (101) is joined to the first subassembly (100) by anodic bonding at its pillar or pillars (13).

11. The process for producing a microswitch as claimed in one of claims 7 to 10, characterized in that, in the case of a parallel-type switch, the electrical connection between the ground lines (10, 11) and the conducting layers (16, 17) is produced by means of the deposit or deposits of metal (20).

12. The process for producing a plurality of microswitches as claimed in claim [25] 1, characterized in that a plurality of subassemblies (100) are produced on a common substrate (8) and a plurality of subassemblies (101) are produced on a common substrate (21), the joining operation being common to the two subassemblies (100, 101), the whole assembly obtained then being cut in order to obtain a plurality of individual microswitches.